

Figure 1

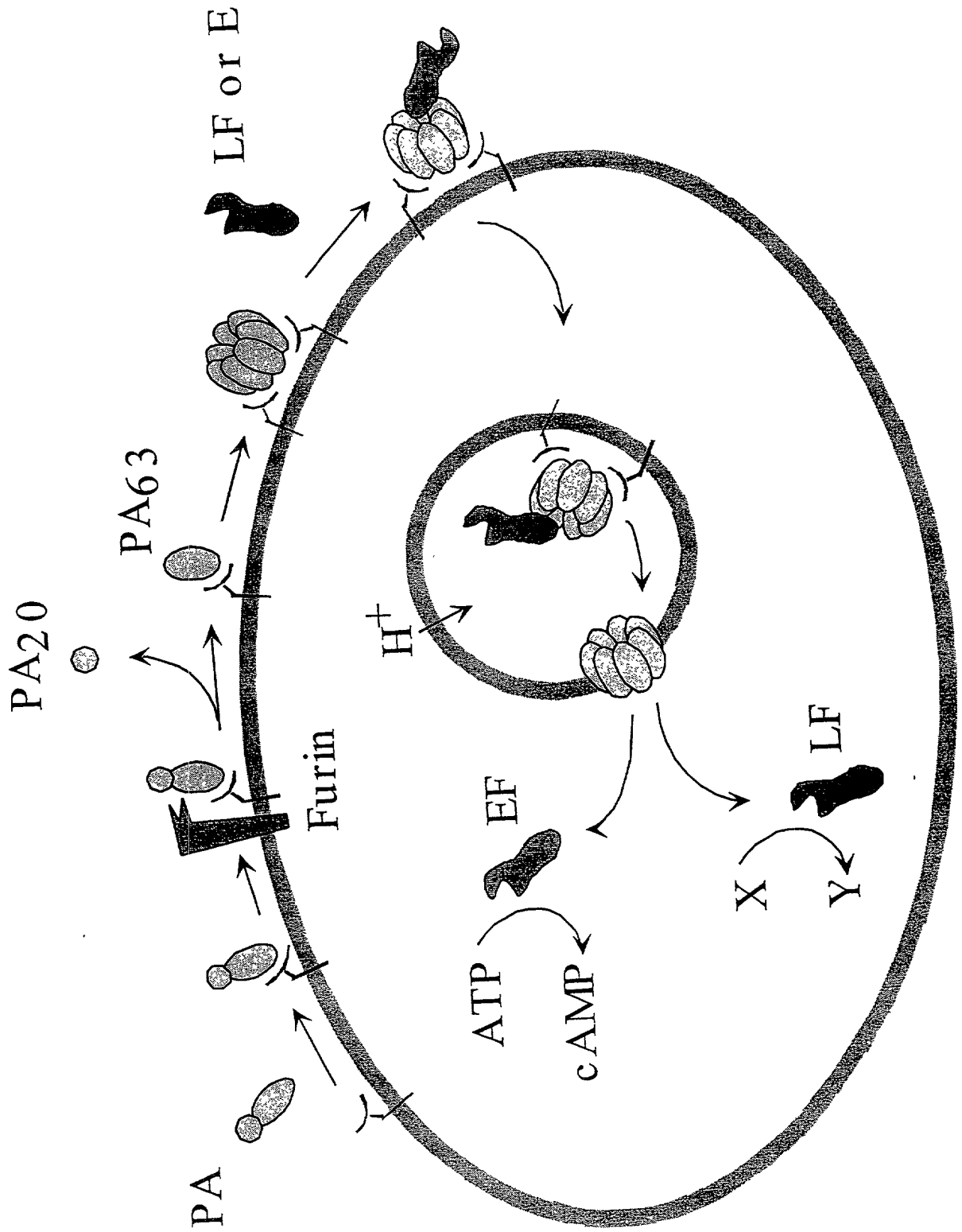


Figure 2A

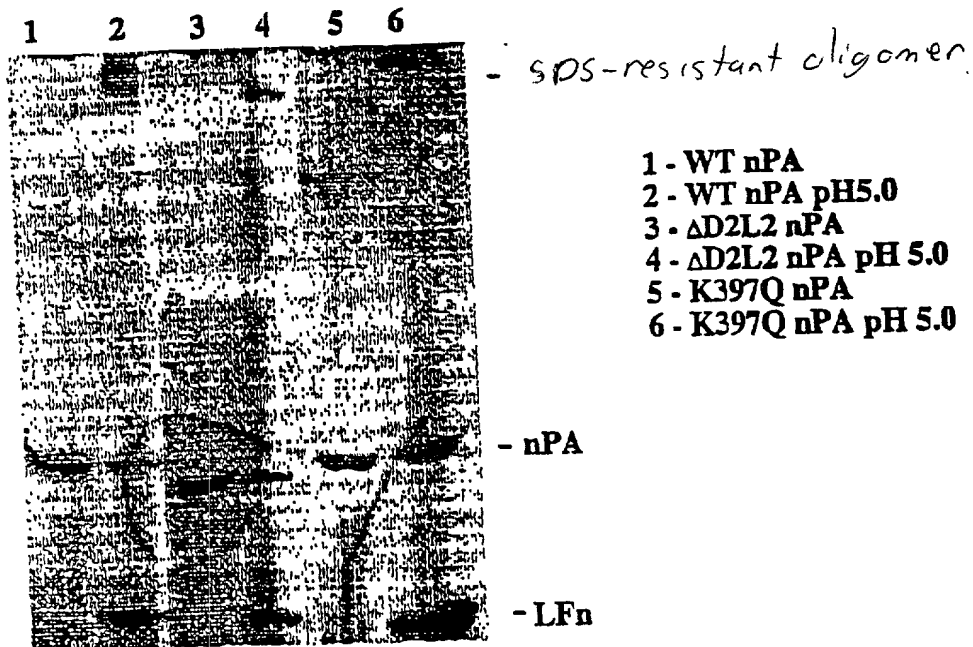
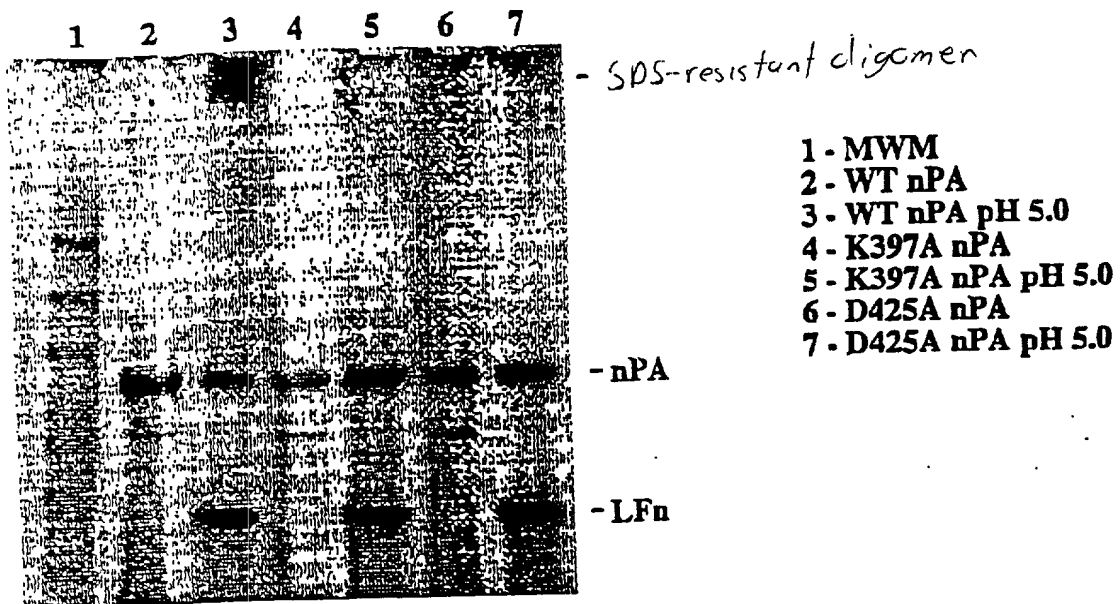


Figure 2B

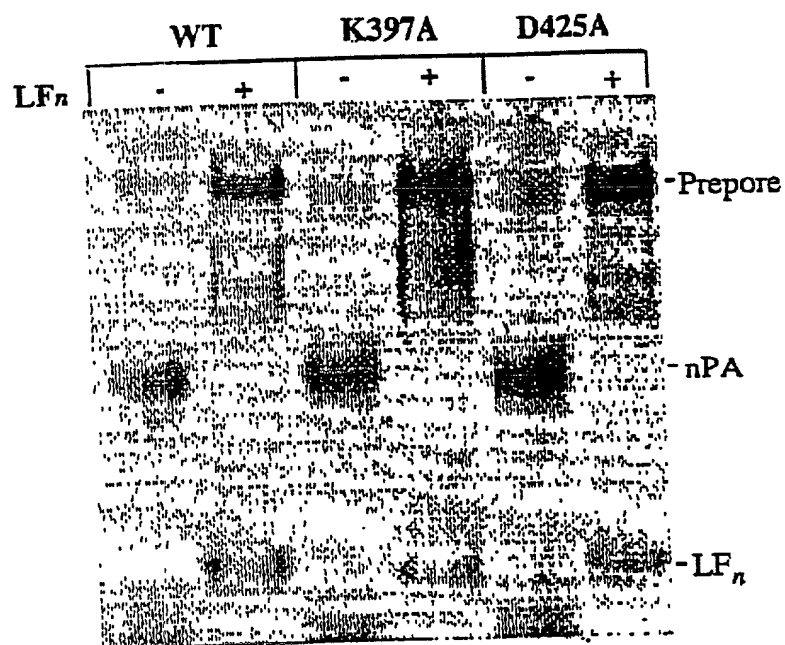


Figure 3

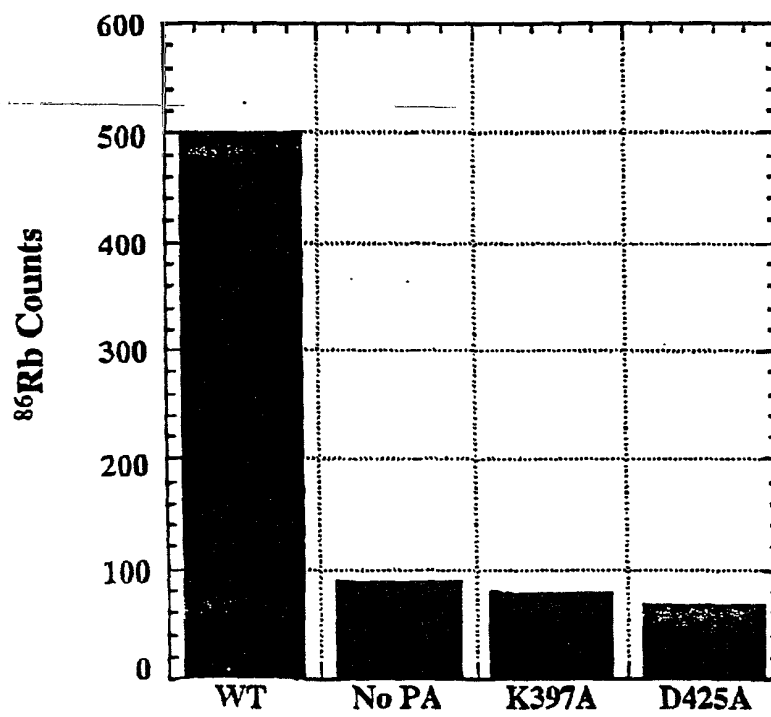
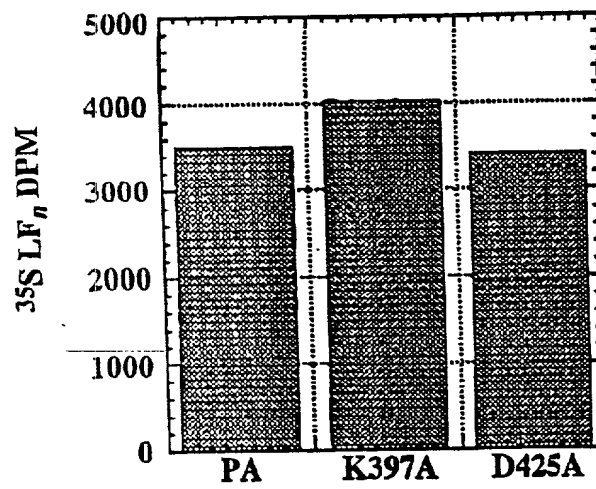


Figure 4

A.

PA Dependent Binding to Cells



B.

PA Dependent Translocation into Cells

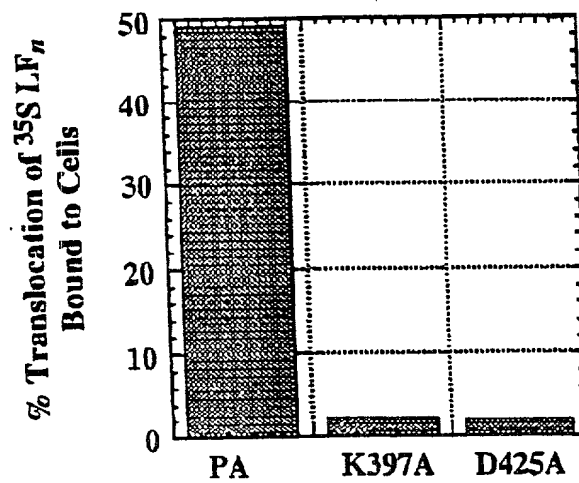


Figure 5

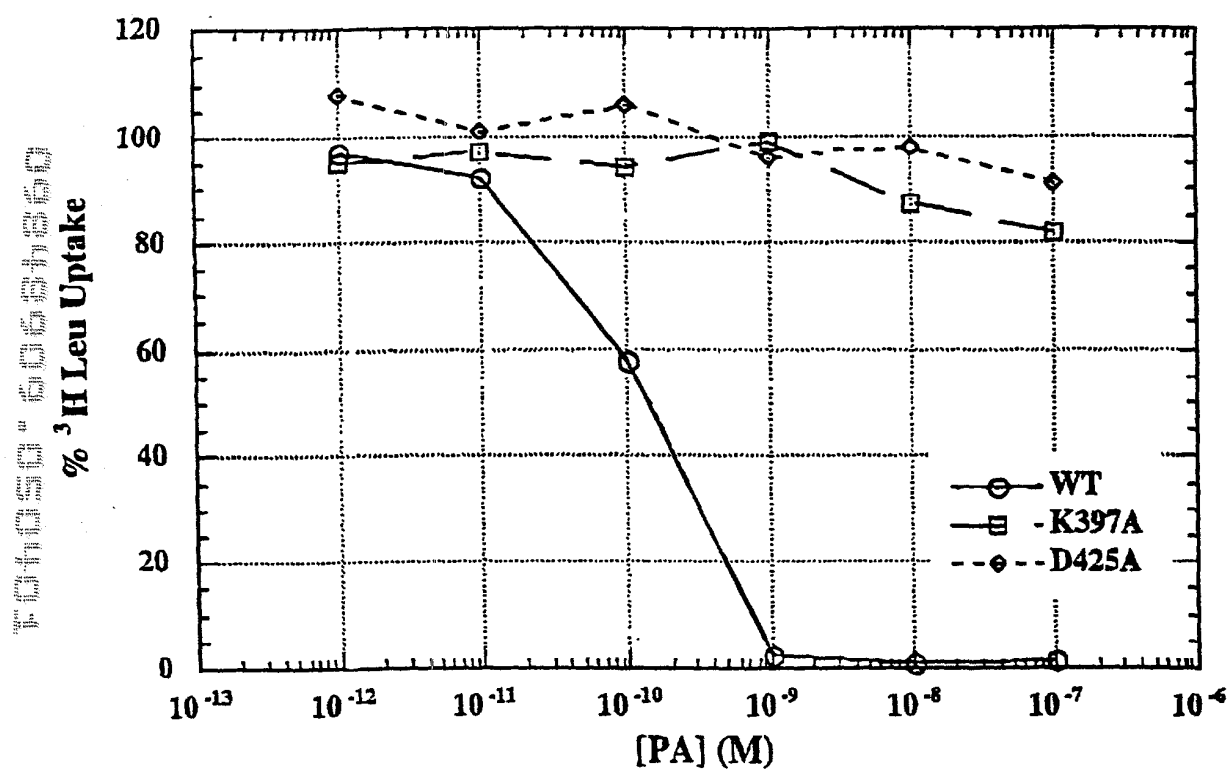
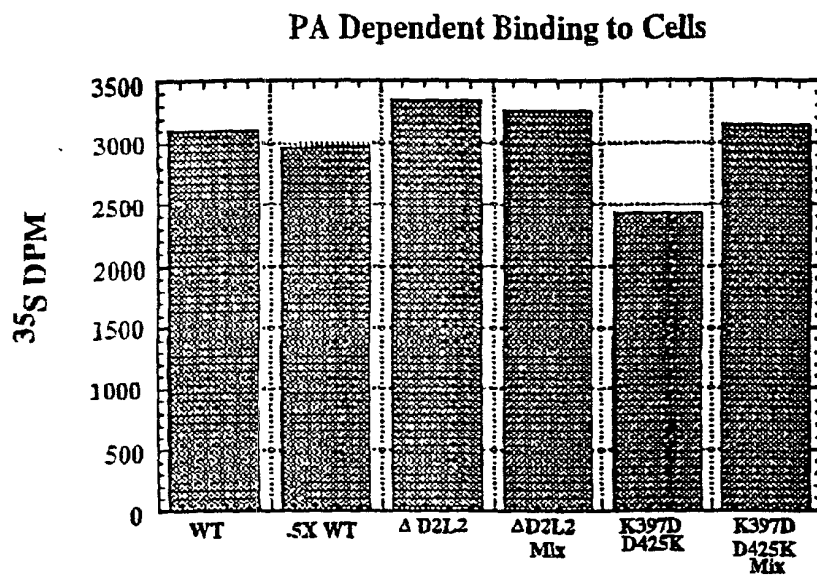


Figure 6

A



B

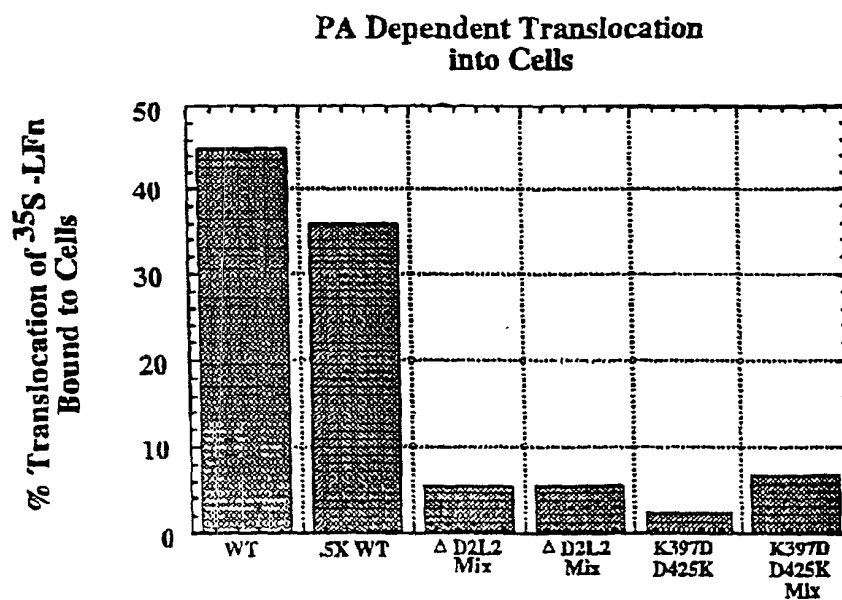


Figure 7

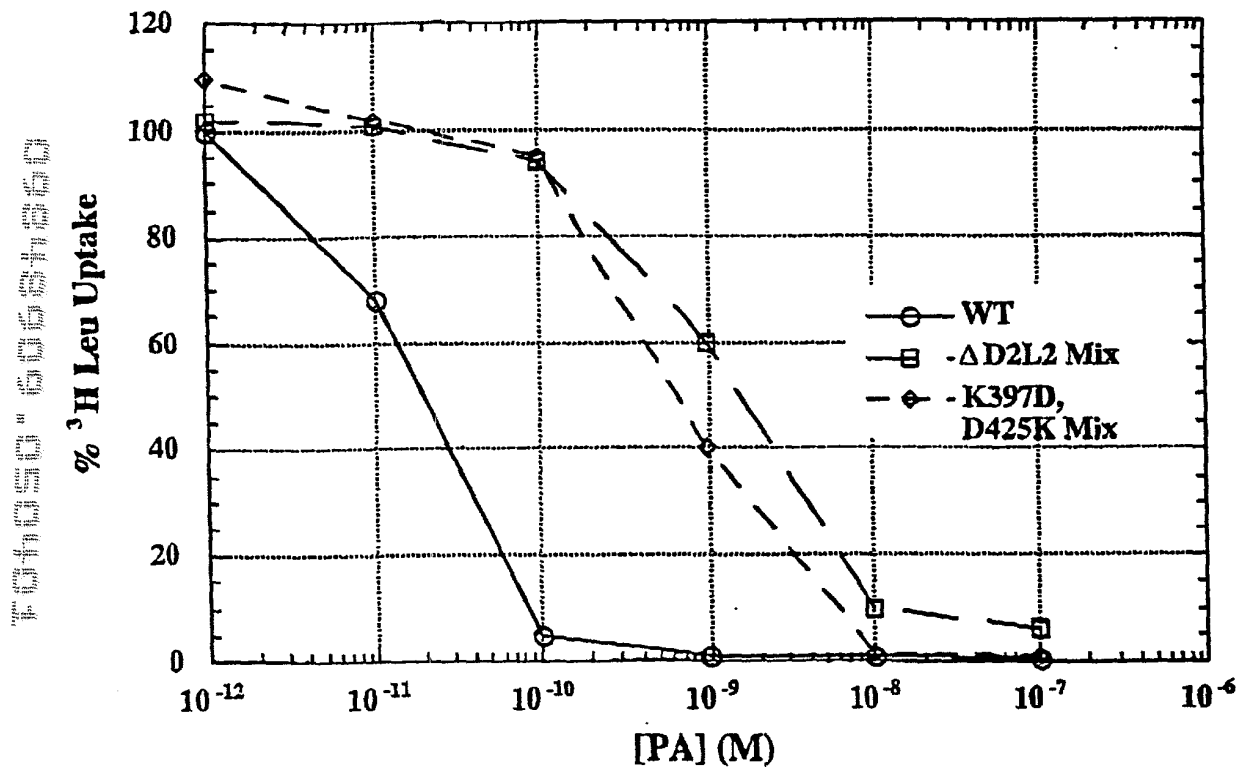


Figure 8

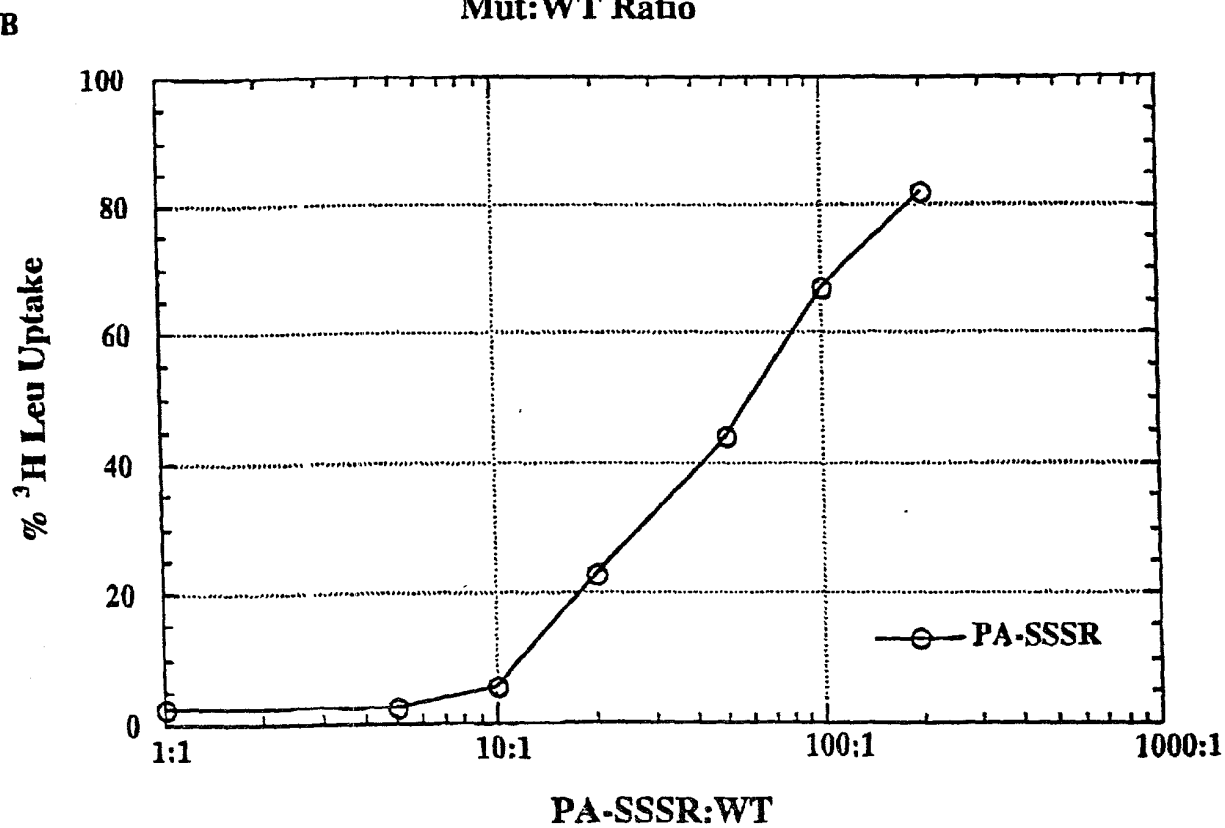
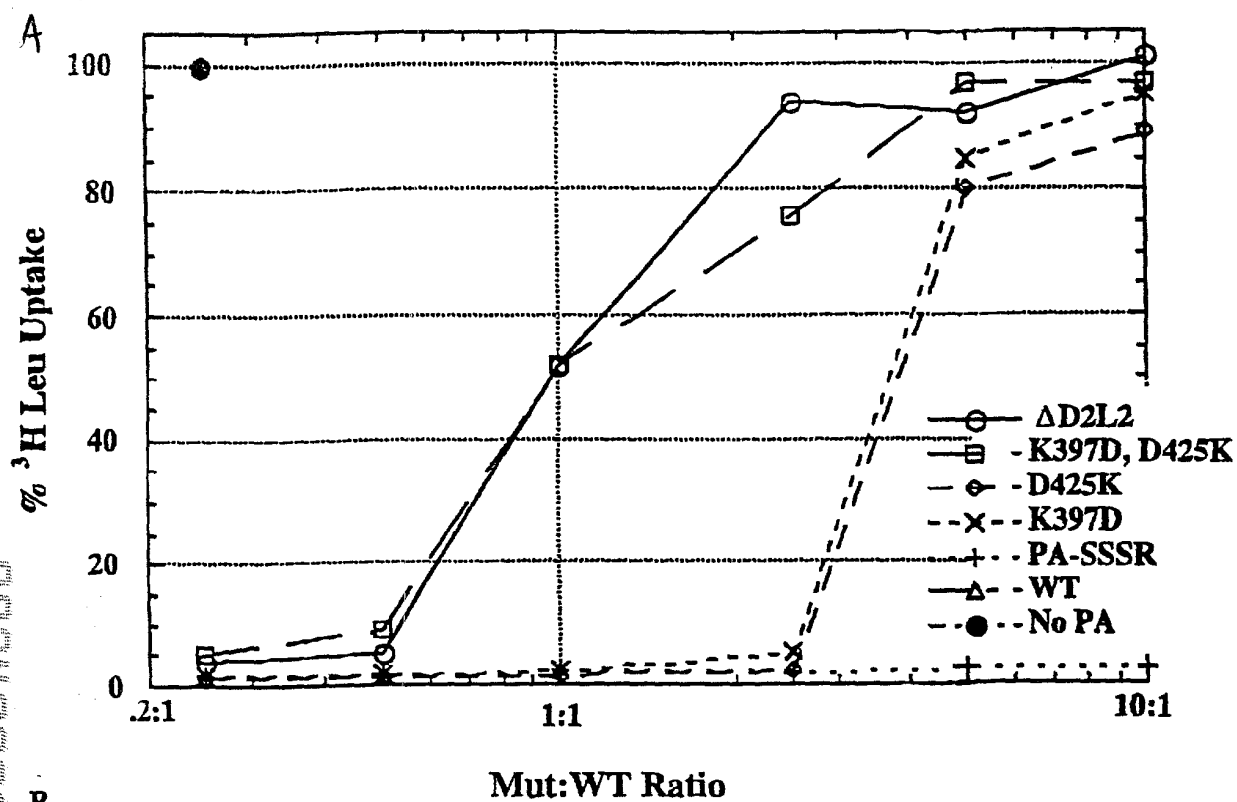


Figure 9

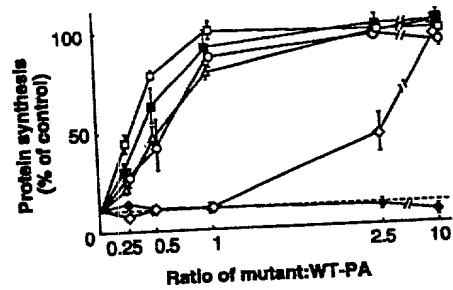


Figure 10

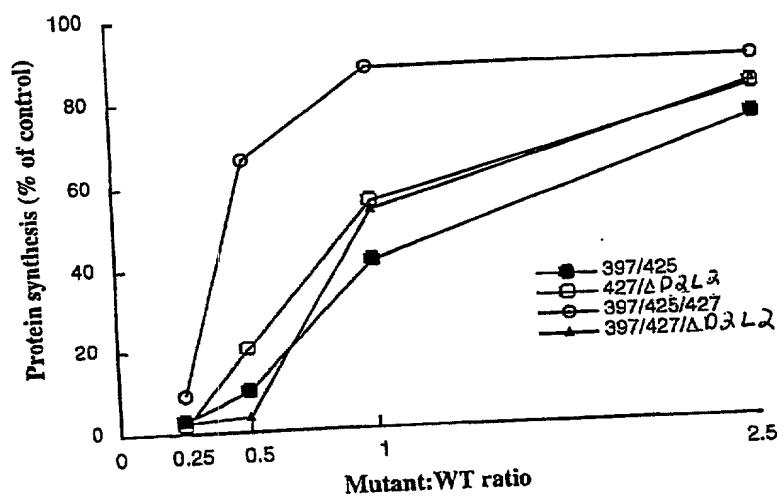


Figure 11

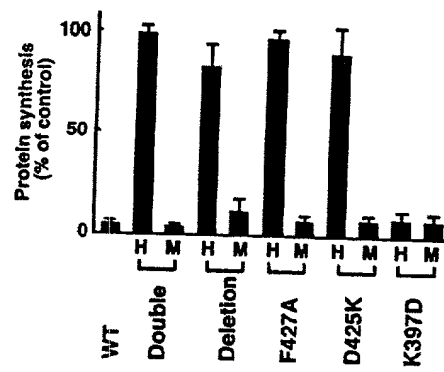


Figure 12

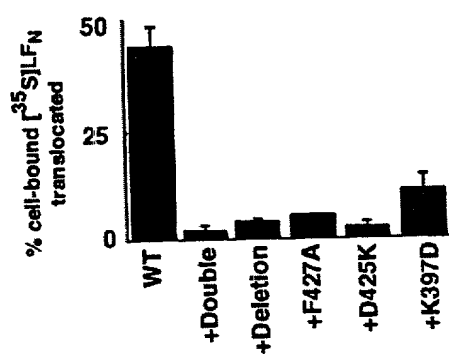


Figure 13

Figure 13: SEQ ID No.: 21

EVKQENRLLNESESSSQGLLGYYFSDLNFQAPMVVTSSTTGDLSIPSSSELENIPSEN
QYFQSAIWSGFIKVKKSDEYTFA
TSADNHVTMWVDDQEVINKASNSNKIRLEKGRLYQIKIQYQRENPTTEKGLDFKL
YWTDSQNKKKEVISSDNLQLPELKQKS
SNSRKKRSTSAGPTVPDRDNDGIPDSLEVEGYTVDVKNKRTFLSPWISNIHEKKG
LTKYKSSPEKWSTASDPYSDFEKT
GRIDKNVSPEARHPLVAAYPVHVDMENILSKNEDQSTQNTDSETRTISKNTSTS
RTHTSEVHGNAEVHASFFDIGGSV
SAGFSNSNSSTVAIDHSLSLAGERTWAETMGLNTADTARLNANIRYVNTGTAPIY
NVLPTTSLVLGKNQTLATIKAKENQ
LSQILAPNNYYPSKNLAPIALNAQDDFSSTPITMNYNQFLELEKTKQLRLDTDQV
YGNIATYNFENGVRVDTGSNWSEV
LPQIQETTARIIFNGKDLNLVERRIAAVNPSPLETTKPDMTLKEALKIAFGFNEPN
GNLQYQGKDITEFDNFNDQQTSQ
NIKNQLAELNATNIYTVLDKIKLNAKMNILIRDKRFHYDRNNIAVGADESVVKEA
HREVINSSTEGLLLNIIDKDIRKILS
GYIVEIEDTEGLKEVINDRYDMLNISSLRQDGKTFIDFKKYNDKLPLYISNPYKV
NVYAVTKENTIINPSENGDTSTNG
IKKILIFSCKGYEIGZ

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Figure 14

Figure 14: SEQ ID No.: 22

GAAGTTAAACAGGAGAACCGGTTATTAATGAATCAGAATCAAGTTCCCAGG
GGTTACTAGGATACTATTTTAGTGATT
GAATTTTCAAGCACCCATGGTGGTTACCTCTTCTACTACAGGGGATTTATCTA
TTCCTAGTTCTGAGTTAGAAAATATTC
CATCGGAAAACCAATATTTTCAATCTGCTATTTGGTCAGGATTTATCAAAGTT
AAGAAGAGTGATGAATATACATTTGCT
ACTTCCGCTGATAATCATGTAACAATGTGGGTAGATGACCAAGAAGTGATTA
ATAAGCTTCTAATTCTAACAAAATCAG
ATTAGAAAAAGGAAGATTATATCAAATAAAAAATTCAATATCAACGAGAAAAAT
CCTACTGAAAAAGGATTGGATTTCAAGT
TGTAAGTGGACCGATTCTCAAAAATAAAAAAGAAGTGATTTCTAGTGATAACTT
ACAATTGCCAGAATTAACAAAATCT
TCGAACTCAAGAAAAAGCGAAGTACAAGTGCTGGACCTACGGTTCCAGACC
GTGACAATGATGGAATCCCTGATTCATT
AGAGGTAGAAGGATATACGGTTGATGTCAAAAATAAAAGAACTTTTCTTTCA
CCATGGATTTCTAATATTCATGAAAAGA
AAGGATTAACCAAATATAAATCATCTCCTGAAAAATGGAGCACGGCTTCTGA
TCCGTACAGTGATTTTCGAAAAGGTTACA
GGACGGATTGATAAGAATGTATCACCAGAGGCAAGACACCCCCTTGTGGCAG
CTTATCCGATTGTACATGTAGATATGGA
GAATATTATTCTCTCAAAAATGAGGATCAATCCACACAGAATACTGATAGT
GAAACGAGAACAATAAGTAAAAATACTT
CTACAAGTAGGACACATACTAGTGAAGTACATGGAAATGCAGAAGTGCATGC
GTCGTTCTTTGATATTGGTGGGAGTGTA
TCTGCAGGATTTAGTAATTCGAATTCAGTACGGTCGCAATTGATCATTCACT
ATCTCTAGCAGGGGAAAGAACTTGGGC
TGAAACAATGGGTTTAAATACCGCTGATACAGCAAGATTAAATGCCAATATT
AGATATGTAAATACTGGGACGGCTCCAA
TCTACAACGTGTTACCAACGACTTCGTTAGTGTTAGGAAAAAATCAAACACT
CGCGACAATTAAAGCTAAGGAAAACCAA
TTAAGTCAAATACTTGCACCTAATAATTATTATCCTTCTAAAAACTTGGCGCC
AATCGCATTAATGCACAAGACGATT
CAGTTCTACTCCAATTACAATGAATTACAATCAATTTCTTGAGTTAGAAAAAA
CGAAACAATTAAGATTAGATACGGATC
AAGTATATGGGAATATAGCAACATACAATTTTGAAAATGGAAGAGTGAGGGT
GGATACAGGCTCGAACTGGAGTGAAGTG
TTACCGCAAATTCAAGAAACAACTGCACGTATCATTTTAAATGGAAAAGATTT
AAATCTGGTAGAAAGGCGGATAGCGGC
GGTTAATCCTAGTGATCCATTAGAAACGACTAAACCGGATATGACATTAAAA
GAAGCCCTTAAATAGCATTGATTGA
ACGAACCGAATGGAACTTACAATATCAAGGGAAAGACATAACCGAATTTG
ATTTTAATTTGATCAACAAACATCTCAA
AATATCAAGAATCAGTTAGCGGAATTAAACGCAACTAACATATATACTGTAT
TAGATAAAATCAAATTAATGCAAAAAT

Figure 14 continued

GAATATTTTAATAAGAGATAAACGTTTTTCATTATGATAGAAATAACATAGCA
GTTGGGGCGGATGAGTCAGTAGTTAAGG
AGGCTCATAGAGAAGTAATTAATTCGTCAACAGAGGGATTATTGTTAAATAT
TGATAAGGATATAAGAAAAATATTATCA
GGTTATATTGTAGAAATTGAAGATACTGAAGGGCTTAAAGAAGTTATAAATG
ACAGATATGATATGTTGAATATTTCTAG
TTACGGCAAGATGGAAAAACATTTATAGATTTTAAAAAATATAATGATAAA
TTACCGTTATATATAAGTAATCCCAATT
ATAAGGTAAATGTATATGCTGTTACTAAAGAAAACACTATTATTAATCCTAGT
GAGAATGGGGATACTAGTACCAACGGG
ATCAAGAAAATTTTAATCTTTTCTAAAAAAGGCTATGAGATAGGATAA

Figure 15

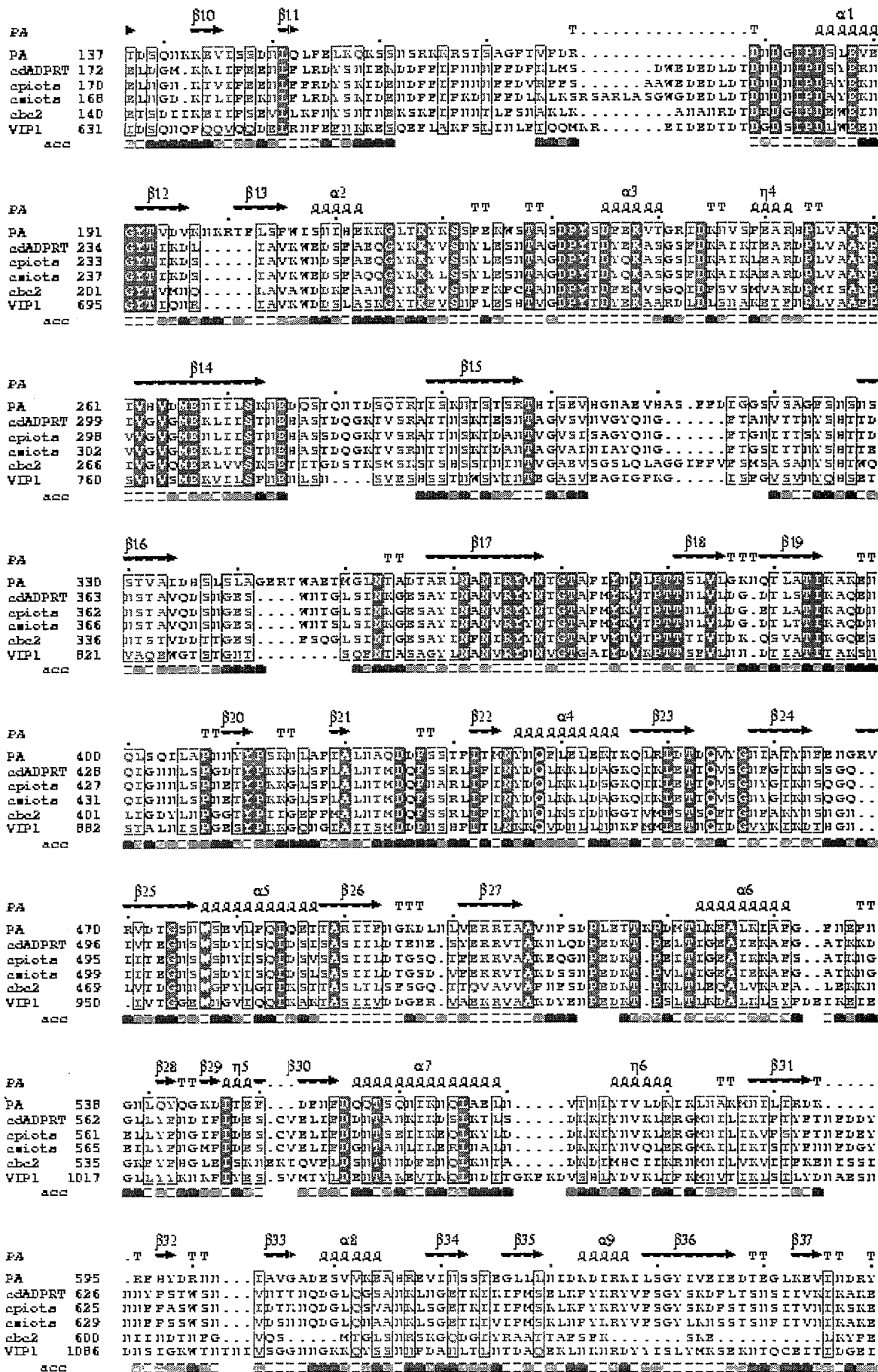


Figure 16

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Figure 16

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cdADPRT
apiots
apiots
abc2
VIP1

MMRMEGR LEMVSRILQVVTIRI VLLSTVPSI ELLNNEVIKAEQLNENSO SKYTNLQNLRIID IVEDEFKEDK

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PA
PA
adADPRT
apiots
aslots
abc2
VIP1
EKAKEMGKEREKEKWKLTATEKGMNNEFLNNKNDIKTNAREITS SIAGSFEDK INDLKEIDRMEDPKTNLSN

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PA
PA
cdADPRT
cpiots
cmiots
cbc2
VIP1

SIIITKNNVEPII IGENIKSLTEGNTINSRAMAQEKKEQFLDRDIKPDSEYLDTHLTAAOVSSKERVILKVIVF

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PA
PA
cdADPRT
cpiots
csiots
cnc2
VPI1

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PA
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cdADPPT
apiots
apiots
che2
WPI1
MKNYEZWAKDLTDSQREALLGYARQSYKEINNYLNNQGGSGNEKLDQAQIKNI SDALGKRFIFENITVYRW

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PA
PA
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..adDPKt
..piet.
..iet.
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VPI1

CGMPFEGYQISDFLFLSLKDPEEQPLNTIKEDRGYMSTLSSEERLAAPGSRKIILRLQVPKGSTGAYLSAI

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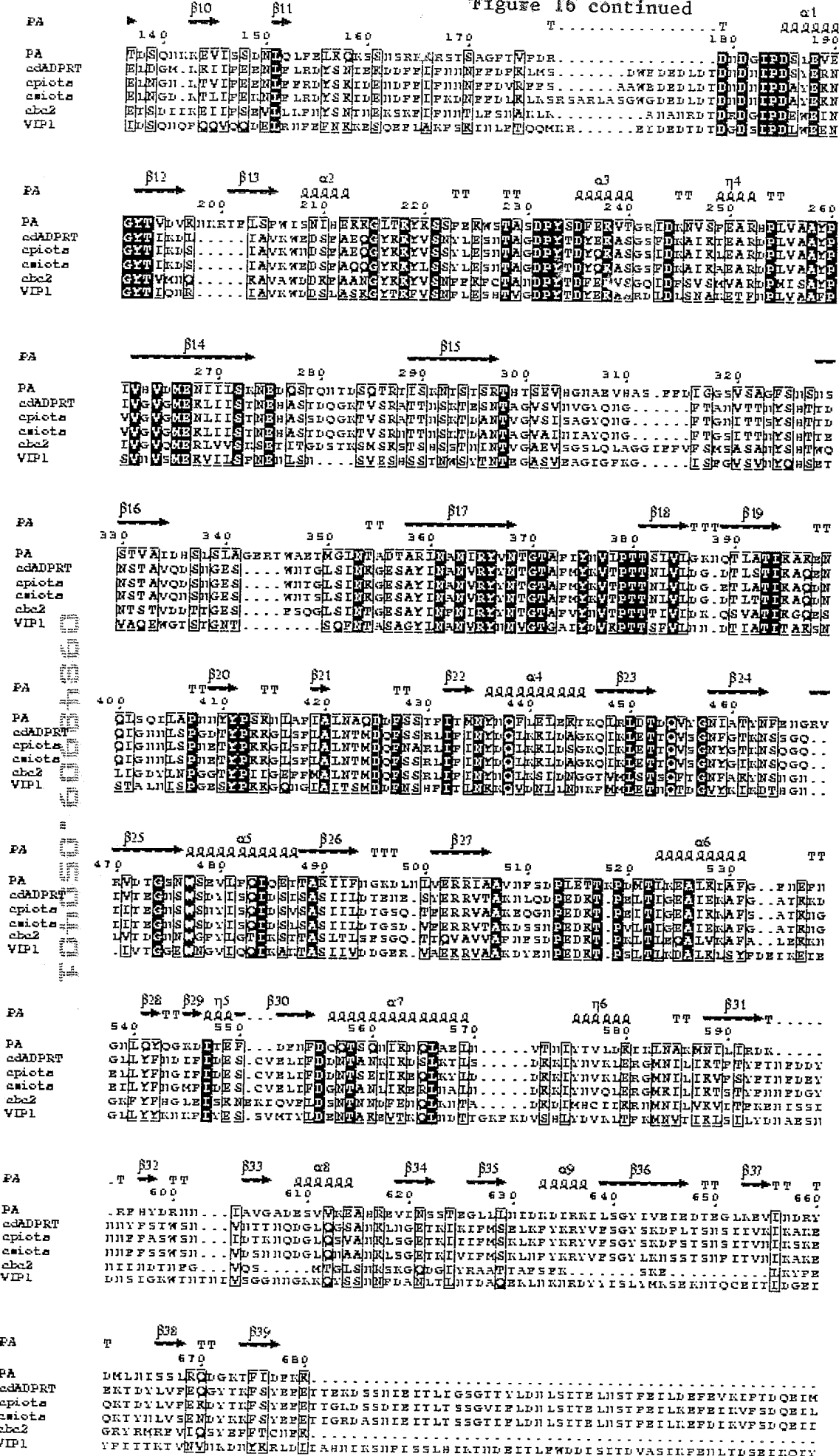
      1
PA .....E
sdADPRT .....MKIQMNNKKVLSFLT LTAVSQALVYFVYRQTSTSTNH
spsta .....MKIQKKNVFSELT LTKMSIQTLSEYHWVAQTITQND
sta .....MKNNKKILGLLT CTVLVQOMKTYVYKATITQNY
abc2 .....MLVSEK
VPL GGPASEKEILLDDADSKYHIDKVIEVILNGVRRYVVDATLLTNSRGPSTPTTFSPSTFFTFSDIGSTMKTH

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$\beta 1$ $\beta 2$ $\eta 1$ $\eta 2$ $\beta 3$
 10 20 30 40 50 60 70
 AADPRPT VKQEHRLINLESSSSQGLIGYYPSSD LNFAPMTVTTSITGLP LSFSSSELENTFSSE.NQYVQSAINS GPILK
 pletc INQKREITINEKITLSNGGLIGYYPADDEPRDLKLIKAFIKNGELKLFEEKMKVKILLTEZINSSSKRSIRITGRIT
 :lets LNQSEVETINEKITVSSNGGLIGYYPADDEPRDLKLIKAFIKNGELKLFEEKMKVKILTEZINSSSKRSIRITGRIT
 bc2 ENLSPKSNKSNKYNITVINGGLIGYYPADDEPRDLKLIKAFIKNGELKLFEEKMKVKILTEZINSSSKRSIRITGRIT
 ID1 QISTTGRKQCKEKKRGLIGYYPKGGKESHLINLAPAFPLSTLITVCOOTAPKLLKQCKEZXSRIRIGLIT

[illegible]

Figure 16 continued



PA TT β40 700 η⁷ AAA TT
690 710 720
 PAYHDKLFLYISIPFHYIVN.....VYAVILLESIIINPSENGDITSTNG.
 adADPRT DANKIYFADLNFNFSTGNTIINGMYFAPTQTNKEALDYIQKYRVEATLQYSGFEDIGTKDKEMRNYLGDF
 apicta DANKIYFADIKLDINTGNTIIDGIYFEFTQTNKEALDYIQKYRVEATLQYSGFEDIGTKDKELRNYLGDF
 abc2 DANKIYFADLSPNQSTAHYLLGLIPEFTQTNKEVLDYIQKYRVEATLQYSGFEDIGTKDKELRNYTGLS
 VIP1LFNNLLIYSSSPDAGIYDEFFY.....FYINGSKSEFNISCDIINSINR.
 SAYGIRLEDGILIDKGGGIBYGEFINHASPNIHPLQNYVITIEVTYSSSELGFHVSUTLESDAIYKDGTR

PA β41 α10 AAA
730
 PAIKKILIPSEKGYEIG.....
 adADPRT HQFNINYNHLRSYETGGENIMYKKILRYAITFDRELLVLSVD
 apicta HQFNINYNHLRSYETGGENIMYKKILRYAITFDRELLVLSVD
 abc2 HQFNINYNHLRSYETGGENIMYKKILRYAITFDRELLVLSVD
 VIP1LSGVFIEELDKLLI.....
 PDKIKYSKNEQGLEYSGLIKDFKINATYDGKEMHVFHRYNH.

Figure 16 continued

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